

L3 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:427634 HCAPLUS  
DOCUMENT NUMBER: 140:424120  
ENTRY DATE: Entered STN: 27 May 2004  
TITLE: Polyisobutenyl ethers and thioethers  
INVENTOR(S): Lange, Arno; Mach, Helmut; Rath, Hans Peter;  
Mijolovic, Darijo  
PATENT ASSIGNEE(S): BASF Ag, Germany  
SOURCE: Eur. Pat. Appl., 9 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
INT. PATENT CLASSIF.:  
MAIN: C08F008-00  
SECONDARY: C08G081-02  
CLASSIFICATION: 35-8 (Chemistry of Synthetic High Polymers)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1422246	A2	20040526	EP 2003-26650	20031119
EP 1422246	A3	20041013		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
DE 10254924	A1	20040603	DE 2002-10254924	20021125
US 2004102653	A1	20040527	US 2003-698457	20031103 <--
			DE 2002-10254924	A 20021125

PRIORITY APPLN. INFO.:

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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EP 1422246	ICM	C08F008-00
	ICS	C08G081-02
EP 1422246	ECLA	C08F008/00+10/10
DE 10254924	ECLA	C08F008/00+10/10
US 2004102653	ECLA	C08F008/00+10/10 <--

ABSTRACT:

Polyisobutenyl ethers and thioethers are manufactured by reacting terminal epoxy-group-containing polyisobutenes with themselves, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators under irradiation and are useful for curable compns. Thus, heating 30 g of the epoxidized polyisobutylene having mol. weight 1,000 in 150 mL of MeOH in the presence of 1 mL of boron trifluoride etherate for 3 h at 50° gives 36.7 g of an oil containing 70% of methoxyhydroxypolyisobutene.

SUPPL. TERM: polyisobutenyl ether thioether manuf; reaction epoxy group  
contg polyisobutene epoxide alc thiol; Lewis acid cationic  
photoinitiator; epoxidized polyisobutylene methanol boron  
trifluoride etherate

INDEX TERM: Halides

ROLE: CAT (Catalyst use); USES (Uses)

(B and other, Lewis acids; polyisobutenyl ether and  
thioether manufactured by reacting terminal

epoxy-group-containing

polyisobutene with itself, other epoxides and/or alcs. or  
thiols in the presence of Lewis acids or/and cationic  
photoinitiators)

INDEX TERM: Sulfonium compounds  
ROLE: CAT (Catalyst use); USES (Uses)  
(cationic photoinitiators; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Rare earth compounds  
ROLE: CAT (Catalyst use); USES (Uses)  
(halides and sulfonates, Lewis acids; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Onium compounds  
ROLE: CAT (Catalyst use); USES (Uses)  
(iodonium, cationic photoinitiators; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Ring opening  
(photochem.; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene, useful for curable compns.)

INDEX TERM: Lewis acids  
ROLE: CAT (Catalyst use); USES (Uses)  
(polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Alcohols, reactions  
*Thiols*  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Epoxides  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Thiols (organic), reactions  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Crosslinking  
Ring opening catalysts  
(polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene, useful for curable compns.)

INDEX TERM: Ethers, preparation  
Thioethers  
ROLE: IMF (Industrial manufacture); PREP (Preparation)

(polyisobutyl; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: Sulfonic acids, uses  
 ROLE: CAT (Catalyst use); USES (Uses)  
 (salts, B and other, Lewis acids; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: 7429-90-5D, Aluminum, halides and sulfonates  
 7439-89-6D, Iron, halides and sulfonates  
 7440-31-5D, Tin, halides and sulfonates  
 7440-32-6D, Titanium, halides and sulfonates  
 7440-36-0D, Antimony, halides and sulfonates  
 7440-42-8D, Boron, halides and sulfonates  
 7440-55-3D, Gallium, halides and sulfonates  
 7440-62-2D, Vanadium, halides and sulfonates  
 7446-70-0, Aluminumtrichloride, uses  
 7550-45-0, Titanium tetrachloride, uses  
 7637-07-2, Borontrifluoride, uses 7705-08-0  
 , Iron trichloride, uses 10294-34-5,  
 Borontrichloride  
 ROLE: CAT (Catalyst use); USES (Uses)  
 (Lewis acids; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: 109-63-7, Borontrifluoride etherate  
 ROLE: CAT (Catalyst use); USES (Uses)  
 (polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

INDEX TERM: 67-56-1DP, Methanol, reaction products with  
 epoxidized Polyisobutylene 9003-27-4DP,  
 Polyisobutylene, epoxidized, reaction products with MeOH  
 ROLE: IMF (Industrial manufacture); PREP (Preparation)  
 (polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

IT 7429-90-5D, Aluminum, halides and sulfonates 7439-89-6D,  
 Iron, halides and sulfonates 7440-31-5D, Tin, halides and  
 sulfonates 7440-32-6D, Titanium, halides and sulfonates  
 7440-36-0D, Antimony, halides and sulfonates 7440-42-8D,  
 Boron, halides and sulfonates 7440-55-3D, Gallium, halides and  
 sulfonates 7440-62-2D, Vanadium, halides and sulfonates  
 7446-70-0, Aluminumtrichloride, uses 7550-45-0, Titanium  
 tetrachloride, uses 7637-07-2, Borontrifluoride, uses  
 7705-08-0, Iron trichloride, uses 10294-34-5,  
 Borontrichloride  
 RL: CAT (Catalyst use); USES (Uses)  
 (Lewis acids; polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)

RN 7429-90-5 HCAPLUS  
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

Al

RN 7439-89-6 HCAPLUS  
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-31-5 HCAPLUS  
CN Tin (8CI, 9CI) (CA INDEX NAME)

Sn

RN 7440-32-6 HCAPLUS  
CN Titanium (8CI, 9CI) (CA INDEX NAME)

Ti

RN 7440-36-0 HCAPLUS  
CN Antimony (8CI, 9CI) (CA INDEX NAME)

Sb

RN 7440-42-8 HCAPLUS  
CN Boron (8CI, 9CI) (CA INDEX NAME)

B

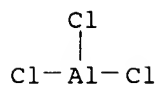
RN 7440-55-3 HCAPLUS  
CN Gallium (8CI, 9CI) (CA INDEX NAME)

Ga

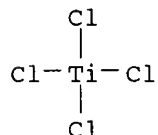
RN 7440-62-2 HCAPLUS  
CN Vanadium (8CI, 9CI) (CA INDEX NAME)

V

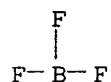
RN 7446-70-0 HCAPLUS  
CN Aluminum chloride (AlCl3) (9CI) (CA INDEX NAME)



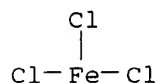
RN 7550-45-0 HCAPLUS  
CN Titanium chloride (TiCl<sub>4</sub>) (T-4)- (9CI) (CA INDEX NAME)



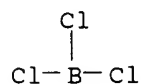
RN 7637-07-2 HCAPLUS  
CN Borane, trifluoro- (9CI) (CA INDEX NAME)



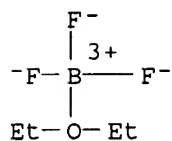
RN 7705-08-0 HCAPLUS  
CN Iron chloride (FeCl<sub>3</sub>) (8CI, 9CI) (CA INDEX NAME)



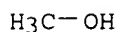
RN 10294-34-5 HCAPLUS  
CN Borane, trichloro- (9CI) (CA INDEX NAME)



IT 109-63-7, Borontrifluoride etherate  
RL: CAT (Catalyst use); USES (Uses)  
(polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators)  
RN 109-63-7 HCAPLUS  
CN Boron, trifluoro[1,1'-oxybis[ethane]]-, (T-4)- (9CI) (CA INDEX NAME)



IT. 67-56-1DP, Methanol, reaction products with epoxidized Polyisobutylene 9003-27-4DP, Polyisobutylene, epoxidized, reaction products with MeOH  
 RL: IMF (Industrial manufacture); PREP (Preparation) (polyisobutenyl ether and thioether manufactured by reacting terminal epoxy-group-containing polyisobutene with itself, other epoxides and/or alcs. or thiols in the presence of Lewis acids or/and cationic photoinitiators).  
 RN 67-56-1 HCAPLUS  
 CN Methanol (8CI, 9CI) (CA INDEX NAME)



RN 9003-27-4 HCAPLUS  
 CN 1-Propene, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 115-11-7  
 CMF C4 H8

